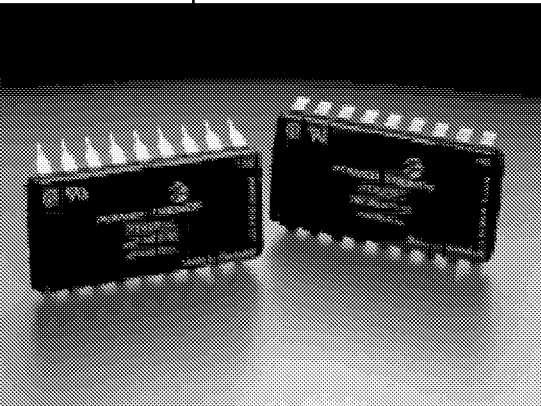


PT42/4300 Series

**3-7 WATT 48V INPUT
 ISOLATED DC-DC CONVERTER**

Revised 5/15/98



- * Wide Input Voltage Range: 38V to 72V
- * 83% Efficiency
- * 1,500 VDC Isolation
- * 18 Pin DIP Package
- * 3.5 Million Hour MTBF
- * Meets FCC/EN55022 Class A
- * UL and CSA approved
- * No External Components Required
- * Adjustable Output Voltage

Power Trends' PT4200 series of isolated

DC to DC converters advance the state-of-the-art for board-mounted converters by employing high switching frequencies, thick-film technology and a high degree of silicon integration. The high reliability and very low package height makes these converters ideal for Telecom and Datacom applications requiring input-to-output isolation with board spacing down to 0.6".

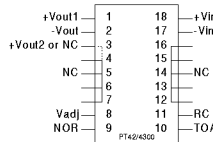
The PT4200 series is offered in a unique molded through-hole or SMD-DIP package with single output voltages of 2V, 3.3V, 5V, and 12V, dual outputs of ±5V, +5V/+3.3V, and ±12V.

Specifications

Characteristics (T _a = 25°C unless noted)	Symbols	Conditions	PT42/4300 SERIES			Units	
			Min	Typ	Max		
Output Current	I _o	Over V _{in} range	V _o = 2V, 3.3V V _o = 5V V _o = 12V	0 0 0	— — —	1.5 1.2 0.6 A A A	
Current Limit	I _{cl}	V _{in} = 48V	V _o = 2V V _o = 3.3V V _o = 5V V _o = 12V	2.0 1.7 1.4 0.7	— — — —	3.3 3.3 2.4 1.2 A A A A	
On/Off Standby Current	I _{in standby}	V _{in} = 48V, Pin 11 = -V _{in}		—	0.5	—	mA
Short Circuit Current	I _{sc}	V _{in} = 48V	V _o = 2V V _o = 3.3V V _o = 5V V _o = 12V	— — — —	2.8 2.4 1.9 1.2	— — — —	A A A A
Inrush Current	I _{ir} t _{ir}	V _{in} = 48V @ max I _o On start-up		— —	0.6 1.0	1.0 5.0	A mSec
Input Voltage Range	V _{in}	Over I _o Range		38**	48	72	V
Output Voltage Tolerance	ΔV _o	Over I _o Range		—	±4	—	%V _o
Idling Voltage	V _o	I _o = 0A	V _o = 2V V _o = 3.3V V _o = 5V V _o = 12V	— — — —	2.7 3.65 5.6 14.3	3.0 4.0 6.0 17	V V V V
Ripple Rejection	RR	Over V _{in} range @ 120 Hz		—	60	—	dB
Line Regulation	Reg _{line}	Over V _{in} range @ max I _o		—	±0.5	—	%V _o
Load Regulation	Reg _{load}	10% to 100% of I _o max		—	±3	—	%V _o
V _o Ripple/Noise	V _n	V _{in} = 48V, I _o = I _o max		—	30	70	mV _{pp}
Transient Response	t _{tr}	50% load change V _o over/undershoot		—	100 3.0	300 5.0	μSec %V _o
Efficiency	η	V _{in} = 48V, I _o = 1.5A, V _o = 2V V _{in} = 48V, I _o = 1.5A, V _o = 3.3V V _{in} = 48V, I _o = 1.2A, V _o = 5V V _{in} = 48V, I _o = 0.6A, V _o = 12V		— — — —	73 79 80 83	— — — —	% % % %
Switching Frequency	f _o	Over V _{in} and I _o		—	485	—	kHz
Operating Temperature	T _a	V _{in} = 48V @ max I _o Free air convection, (40-60LFM)		-40	—	+85	°C
Pin Temperature	T _p	@ Pin1		—	—	95	°C
Storage Temperature	T _s	—		-55	—	+125	°C
Mechanical Shock	—	Per Mil-STD-202F, Method 213B, 6mS half-sine, mounted to a PCB		—	50	—	G's
Mechanical Vibration	—	Per Mil-STD-202F, Method 204D, 10-500Hz, mounted to a PCB		—	10	—	G's
Weight	—	—		—	20	—	grams
Isolation	—	—		1500	—	—	VDC
Flammability	—	Materials meet UL 94V-0		—	—	—	—

** Minimum input voltage is adjustable - See application note.

Standard Application



Pin-Out Information

Pin	Function
1	V _{out1}
2	V _{out} return
3	V _{out2} or N/C
4	Do not connect
5	Do not connect
6	Do not connect
7	Do not connect
8*	V _{adj}
9*	Nominal output voltage resistor
10	Turn-on/off input voltage adjust
11	Remote on/off
12	Do not connect
13	Do not connect
14	Do not connect
15	Do not connect
16	Do not connect
17	-V _{in}
18	+V _{in}

* Please note that when the V_{out} adjust is not used, pin 8 must be connected to pin 9.

Ordering Information

Through-Hole

- PT4201A = 2V/1.5A
- PT4202A = 3.3V/1.5A
- PT4203A = 5V/1.2A
- PT4204A = 12V/0.6A
- PT4301A = ±5V/1A
- PT4302A = +5.2V/1A,
+3.3V/1A
- PT4303A = ±12V/0.25A

Surface Mount

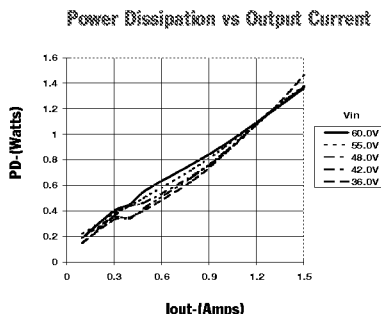
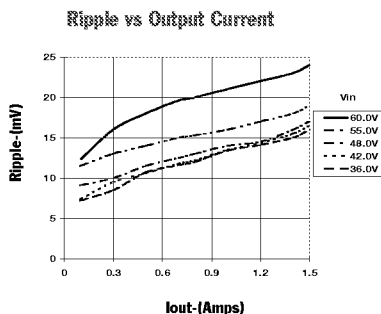
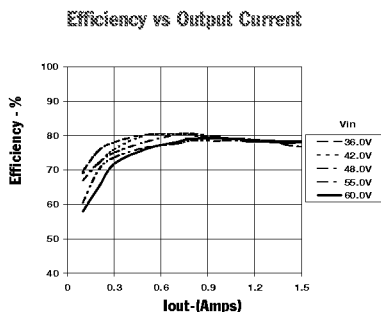
- PT4201C = 2V/1.5A
- PT4202C = 3.3V/1.5A
- PT4203C = 5V/1.2A
- PT4204C = 12V/0.6A
- PT4301C = ±5V/1A
- PT4302C = +5.2V/1A,
+3.3V/1A
- PT4303C = ±12V/0.25A

(For dimensions and PC board layout, see Package Style 900.)

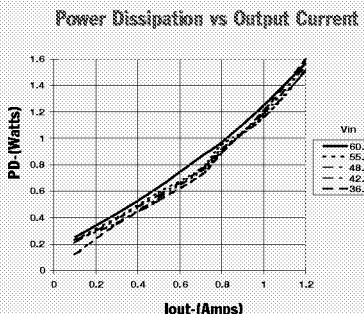
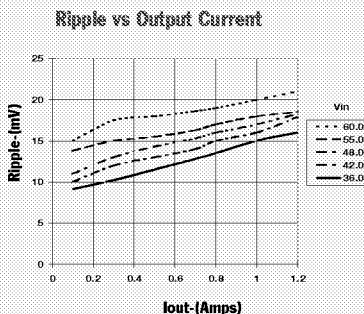
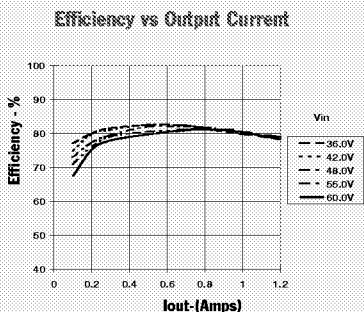
PT42/4300 Series

CHARACTERISTIC DATA

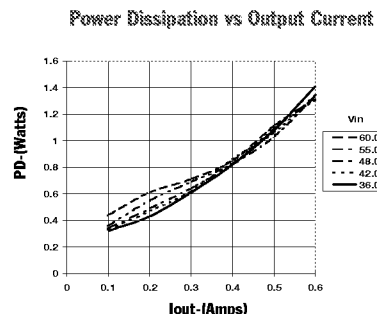
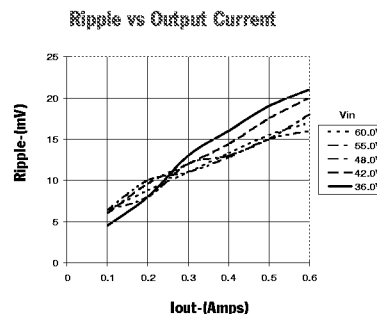
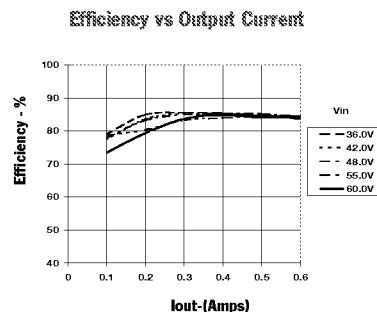
PT4202 3.3V (See Note 1)



PT4203 5.0V (See Note 1)



PT4204 12.0V (See Note 1)



Note 1: All data listed in the above graphs, except for derating data, has been developed from actual products tested at 25°C. This data is considered typical data for the DC-DC Converter.